

REMARKS

Pending claims 1 and 10 have been amended merely to clarify Applicants' invention. Claims 1-9, and 20-47 are now cancelled as drawn to a non-elected invention, subject to linking claims 28, 29, and 33. New claims 48-57 have been added to further define the invention. No new matter is added by the amendments. Accordingly, claims 10-19 and 48-57 are pending in the application.

Restriction requirement

In Applicants' previous Response filed on November 8, 2002 to the Restriction Requirement mailed September 10, 2002, Applicants elected Group II, claims 10-19. The Examiner stated in the present Office Communication that Applicants' reply was not fully responsive to the restriction requirement in the prior Office Action, as the prior election does not include "one specific template molecule."

Applicants affirm the election of Group II (original claims 10-19) and the following specific elected species:

Species A- Building block unit: N-sec-butyl-glycine monomer

Species B- Building block linker: Amide bond

Species C- Template molecule: solid substrate

subspecies C₁: polystyrene

subspecies C₂: amine functional group

The Examiner's attention is directed to Figure 2 for a schematic representation of Applicants' elected species. Figure 2 depicts protecting group chains (open circles) attached to a solid support template molecule (shaded area) via functional groups (X).

Applicants have amended the claims to clarify the invention. These remarks are relevant to amended claims 10-19, as well as newly presented claims 48-57.

Applicants believe this reply is fully responsive to the Restriction Requirement. In view of the above, prosecution on the merits of the elected claims is earnestly solicited. Should there be any additional outstanding questions, the Examiner is invited to contact the undersigned.



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Respectfully submitted,

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VERSION WITH MARKUPS TO SHOW CHANGES MADE

1. A method of forming a uni-chemo [an intermediate] protected compound (UCP) [for preparing a target compound with different functionality] comprising:
 - (a) preparing a plurality of protecting group chains, [two or more protection groups] each chain comprising one or more protecting groups [building block units linked together]; and
 - (b) forming a UCP by attaching the chains to at least one template molecule [protected compound comprising two or more protection groups], wherein at least two of the chains [protection groups] contain a different number of protecting groups [building block units];
 - (b) removing a terminal building block unit of each protection group using one or more chemical, electrochemical, or photolytic reactions to produce an exposed functional group;
 - (c) reacting the exposed functional group with a target group;
 - (d) consecutively removing an additional building block unit on each remaining protection group to produce additional exposed functional groups; and
 - (e) reacting the additional exposed functional groups with additional target groups].

10. A method of preparing target compounds [with different functionality] comprising:

- a) removing one or more protecting groups from a uni-chemo protected compound (UCP) so as to form at least one exposed functional group, wherein the UCP comprises: [preparing a protected template molecule consisting of:]
 - i) a template molecule [having] comprising [more than one] two or more functional groups;
 - ii) [protection] protecting group[s] chains attached to [more than one] the two or more functional groups [of the template molecule], the [protection groups] chains comprising one or more protecting groups [building block units linked together], wherein

- a') a first [protection group] chain contains [has] at least one protecting group[building block unit]; and
- b') at least one other [protection group] chain [has] contains more protecting groups[building block units] than the first [protection group] chain;

(b) removing one or more building block units from each protection group using chemical, electrochemical, or photolytic reactions to form at least one exposed functional group of the template molecule that is not attached to a protection group; and

(c)] b)reacting the exposed functional group [of the template molecule] with a first target group; and

((d)] c)consecutively repeating steps a) and b) to form the target compound.
[removing additional groups building blocks from the protection groups using chemical, electrochemical, or photolytic reactions to form at least one additional exposed functional group of the template molecule that is not attached to a protection group; and

(e) consecutively reacting the additional exposed functional group with an additional target group.]

11. The method of claim 10, wherein the [building block units of the protection groups] protecting group chains are linked together by a C-X-C bond where X is NR, O, S, SiR₂, C≡C, O-SiR₂-O, PR, O-PO-O, O-PO₂-O, CONR, O-CO-O, NR-CO-O, NR-CO-NR, O-S(O₂), an orthoester, an acetal, a ketal or NR-S(O₂); and R is hydrogen, an alkyl, an allyl, an alkene, an alkyne, an aryl, or an alkoxy group.

12. The method of claim [10] 11, wherein the [protection] protecting groups [building block units] are linked by an amide bond.

13. The method of claim 10, wherein the [protection] protecting group[s] chains are oligomers of *N*-sec-butyl-glycine.

14. The method of claim 10, wherein the [template molecule has] functional groups [selected from the group consisting of] comprise an amine, [an] amide, [a] hydroxyl, [a] thiol, [a] carboxylate group, or a mixture thereof.

15. The method of claim 10, wherein the template molecule [is] comprises an oligopeptide, [an] oligosaccharide or [a] DNA [fragment] molecule.

16. The method of claim 10, wherein at least one of the functional groups of the template molecule is attached to a resin.

17. The method of claim 10, wherein the template molecule comprises [is] a solid substrate.

18. The method of claim 17, wherein the solid substrate [is] comprises a glass.

19. The method of claim 17, wherein the solid substrate [is] comprises a polymer [containing] comprising functional groups, [selected from the group consisting of] and wherein the functional groups comprise hydroxyl, carboxylate, or amino groups, [and] or a combination[s] thereof.

48. (New) The method of claim 19, wherein the polymer comprises functionalized polyethylene, polypropylene, polystyrene, polycarbonate, polyacrylate, polyurethane, or Teflon™.

49. (New) The method of claim 15, wherein the template molecule is an oligopeptide comprising lysine.

50. (New) The method of claim 15, wherein the template molecule comprises one or more amino acids having one or more functional groups.

51. (New) The method of claim 50, wherein the template molecule comprises lysine, alanine, glycine, or a mixture thereof.

52. (New) The method of claim 51, wherein the template molecule comprises lysine and alanine.

53. (New) The method of claim 10, wherein the one or more protecting groups are removed using chemical, electrochemical, or photolytic reactions.

54. (New) The method of claim 10, wherein the protecting group chains are unsubstituted or substituted oligomers of 2-amino benzoic acid.

55. (New) The method of claim 10, wherein the protecting group chains are unsubstituted or substituted oligomers of (2-amino-phenyl)-acetic acid.

56. (New) The method of claim 10, wherein the protecting group chains are oligomers of *N*-(1-isopropyl-2-methyl-propylamino)acetic acid.

57. (New) The method of claim 10, wherein the protecting group chains are oligomers of *N*-(1-ethyl-propylamino acid).